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Flowers for Ornament and Decoration.

BY ANNE G. HALE.

ONE important rule in the grouping and arrangement of flowers will bear frequent repetition. It is this: *green gives character, white gives brilliance.* With plenty of green there will be more distinctness, higher individuality, and greater clearness of idea, together with a general expression of quiet and rest; while an abundance of white gives more splendor and brilliance, and a diffuseness of sentiment, which, unless displayed by airy figures and graceful postures, dazzle and weary the beholder.

And, further, it should be remembered that groups and collections of small flowers, even if of varied forms and their hues ever so judiciously mingled, are never effective. But serving unobtrusively to bring the magnificence of their queenly sisters into high relief they gain from such companionship reflected glory and power.

The most tasteful of room decorations are long garlands of flowers or of verdure festooned along the walls, around pictures, about the doorways, or from each corner to the center, and looped gracefully around the lights. At each looping or festoon should be placed a hanging bouquet, a cluster of loosely arranged drooping flowers, or an individual rose, lily, or camellia, in company with a spray or two of some vine with its wandering branchlets and curling tendrils. Braided evergreen or a stout rope covered with lycopodium and kalmia leaves forms an elegant festooning. Leaves of the camellia and myrtle and sprigs of box add to its beauty. Lycopodium should be cut in pieces three inches long, the leaves, in twos and threes, taken with this as little bouquets, placed upon the rope and bound securely around it with a stout twine or cord, in such a manner as to form an ever continuous line of verdure, the leaves projecting slightly from the lycopodium. To expedite the work, the rope should be stretched its entire length, and each end securely fastened before the green is tied upon it. If a floral garland is desired it is best to prepare the verdure in this way,

but to keep the flowers fresh the rope and cord should be dampened, and wet moss used among the green. Flowers are easily inserted between the bits of verdure, particularly if their stems are lengthened by wire or twigs, as is often necessary when using short-stemmed blossoms; moreover, when the flowers have withered they are more readily removed and their places filled with fresh relays.

A hanging bouquet is prettiest composed of a few choice flowers, with small fern leaves or other light foliage. Take camellias, roses, azaleas, lilies, and the like, for the more prominent individuals, with panicles of eupatorium or stevia, and bouvardia; or heliotrope and acacia, or deutzia or verbena, as companions. They should be loosely connected, at the base of their stalks tied together firmly, however, but in such a manner as to give a globular appearance to the group. Hence it is necessary to graduate the length of the stalks; and it is best, if possible, to use flowers upon their own stems. If wired stems are used, as is often the case with camellias, the wire must be wound about with green moss or lycopodium. If a bit of wet cotton or wicking is wound around the end of the stalks and then covered with damp moss the bouquet will retain its freshness longer.

Alternating with these hanging bouquets—at the looping of garlands—clusters of fuchsias, begonias, calceolarias, or other flowers of similar habit, are very beautiful—regard being paid to the proper contrasts and harmony in their tints; or, as above mentioned, sprays of some luxuriant vine, with a blossom—rose, lily, etc.—to crown their beauty.

Hanging baskets of plants or of flowers, are fine ornaments for alcoves or doorways. If filled with growing plants, flowers may be inserted in the damp soil with good effect, on special occasions, but care must be taken not to overload them. With too profuse display of blossoms (these baskets being generally of rustic design) they appear "loud" and vulgar. Even in hanging baskets designed especially for flowers there is danger of this. An abundance of vines and trailing shrubs, with a moderate supply of flowers to brighten them, is more appropriate. Almost any round or oval basket will answer for this purpose. It should be lined with tinfoil or thick paper and then filled with damp sawdust, the sawdust heaping a little in the center to form a slightly rising mound of the whole. Green moss should then be spread over the surface, and in this the foliage and flowers inserted by their stems. Fir-evergreen, or lycopodium, and box may be used for foliage—arbor vitæ, kalmia or camellia leaves forming the border of the basket, or, rather, the edging of the floral mound. But green of a tenderer tone and tissue is more desirable; and flowering vines—mimulus, petunia, maurandia, cobea, ipomea, adlumia, and the like, are much prettier wandering at will from the edge and twining up the handles. Ivies are especially beautiful for basket foliage, and sprays of the passion-flower vine or of clematis, springing from a basket, form a graceful festooning for an alcove, window, or doorway.

These baskets, without handles, placed on small stands around which the vines are allowed to stray are exceedingly attractive as parlor ornaments. A common wicker stand, used for sewing materials, is a nice receptacle for such an arrangement of flowers. Instead of sawdust damp bog-moss may be used. Procure clumps of this (if a few wild vines or small plants are growing among the moss they will add interest

to the flowers); fill a lined basket with these or place them in a deep dish set within the basket, then arrange the flowers as directed for the hanging basket. The bog-moss retains moisture a long time; the flowers may be removed when they decay and others fill their places; the moss and the wild plants being occasionally watered will remain green and grow through several months.

[TO BE CONTINUED.]

A Treeless Forest.

IF it is possible for any country to bear the above anomalous title, one need only read the following items to appreciate the possibility of its existence:

In Dalmatia, Europe, there existed formerly a Karst or forest, which originally was dense and heavy; gradually it has been thinned down till now it is utterly devoid of vegetation. And among the topics which exercise the constant efforts and thought of the ministry of agriculture of the Austrian Government, is the project of its restoration to pristine verdure and leafy greenness.

On December 12, 1871, there was held an exhibition of agricultural and forest seeds, at Vienna, wherein was a collection of 60 varieties of forest trees, under the care of the directors of the Central Nurseries. These nurseries are now devoted to the raising of trees and shrubs, to restore the Karst as a forest. A correspondent of the *Gardener's Chronicle*, traveling over the country, communicates the following detailed intelligence concerning it:

The Karst is now almost devoid of any vegetation, and is covered, for the most part, with larger or smaller pieces of Chalk-stones, of a cold greyish color, remarkably perforated, and often in a decayed state from the rough climate and the dreadful "bora." Only in the funnel-shaped valleys (called Dolinen) is any vegetation to be found. This is partly natural, partly raised by the hand of man, who turns to use every available spot of ground in the vicinity of his wretched domicile.

A beginning with this plantation has now been made, and I do not doubt but that success will crown the effort if only continued with preseverance. As a proof that on the rocky surface of the Karst woodland can exist, I may mention the deer garden of the Princess of Hohenlohe, at Duino, the ancient and charming castle of which crowns a picturesque rock rising up out of the blue sea, and which may be observed even at a distance from Trieste or Miramar.

The five nurseries, laid out for the purpose of producing plants for the Karst, are placed in different places and at different elevations on the mountain, to adapt them the better for their future locality.

The three first are situated on Monte Sermin, near Capodistria, on the sea-shore. Here are produced seedlings fit for the lower countries, to about an elevation of 50 feet above the level of the sea. The ground in this region consists chiefly of chalk sparingly mixed with a reddish ochery clay. More than 2,000,000 of seedlings are here in readiness, amongst them 678,283 Fraxinus Ornus, 83,854 Pyrus communis, 712,529 Robinia Pseudo Acacia, 153,689 Pinus austriaca, 75,928 Hibiscus Syriacus, etc.

The richest of these nurseries is that at Gorz, where more than 5,000,000 of young plants are in cultivation. The trees most cultivated there is Fraxinus Ornus, with 3,616,345 specimens; Tilia, 149,530; 397,348; Morus alba, 9,675; Castanea vesca, 4,415; Punus Avinum, 7,876, etc. The nursery ground lies on a level, and soil is of a clayey, gravelly nature. The plants here grown are used for planting out the rising ground of the Karst which surrounds Gorz.

Special Manure for Peach Trees.

I HAVE used, the past year or two, a special manure on my peach trees with marked success. So far as I have tried it I have found it equally good for vegetables, and I see no reason why it is not a good manure for fruit trees of all kinds; in fact, I have known it to bring peach trees that were dying with yellows back into a bearing condition. I think very likely it will prevent the summer blight in pears. I intend to try it the coming season on small pear stock. I use for each acre, broadcast, the same quantity as for an acre of potatoes, and the following are the proportions:

120 lbs.	Nitrate of Soda.	160 lbs.	Superphosphate of Lime.
80 "	" Potassa.	160 "	Sulphate of Lime.

The N. of Potassa should be ground. After mixing the above together, add three or four parts of fine muck. When applying the mixture for the benefit of peach trees, spread evenly as far as the roots extend, and before a rain.

Babylon, L. I. P. H. FOSTER.

Fruit in Indiana.

BY J. H. HAYNES.

NOW that the growing season is past, we can collect whatever items of interest or profit that may have been presented to our view, and store them away for future reference. Nothing is so beneficial to the horticulturist as experience; and by a comparison of the experiments of others in various sections, we gain much to assist us in our labors, so that it may not be in vain.

It is a fact, clearly proven, that all varieties of fruit will not succeed in all localities, and it will be only by the untiring efforts of the earnest friends of the cause that a select list for each section will be collected.

The year in Indiana has been one of unprecedented drouth. From April till the present, the soil for a great depth has been dry, and it has been a very difficult task to keep our *pets* alive; but doubtless many good results have had their origin from this drouth, as for instance, all grapes have been very healthy in foliage, fruit very good, but growth only an average.

Grapes.

Out of my list of 150 varieties, including the Utah hybrids, Eumelan and Walter, not one has been mildewed, though formerly the two latter were always touched.

Mr. Thompson's Carpenter and Grant grew finely; wood, short-jointed and mature; foliage, very healthy. While Dr. Parker regards them doubtful for his section, I regard them as certain of success here, as I do the Delaware or Hartford, and I have great hope of their ultimate success as two of our choicest table grapes.

Croton and Senasqua are both very excellent grapes; growth, good; foliage, very healthy. The Croton is the finest white grape I ever saw. Should Mr. Underhill's "Irving" prove still superior (as he claims for it), it will be truly a treasure.

I have two black grapes, the Worden and Paxton, which are very superior; the former as an early grape, the latter as a late; both are very strong growers, hardy as the Concord, and equally as productive; from the fruit of two years, I should place their chance of success very high.

Arnold's Hybrids are very fine in quality, yet the size of berry and bunch will be a serious drawback to their popularity.

Mr. Caywood's Hudson and Duchess are both very fine grapes, similar in growth to Concord, and fruit quite superior.

Perry's Siglar, a white grape of large size and early, delicious flavor, good grower and quite hardy. This list includes all that have as yet shown their merits, while I have a large number which have not fruited sufficient to judge them.

Pears.

Pears have been only moderate in quality of fruit, and have ripened much before the proper season, owing, no doubt, to the excessive heat and drouth, but no blight has manifested itself this year. The growth has been short but mature.

Quite a number of new varieties have fruited for me this year, of which some are very promising, and if in the next two years they show as many good qualities in tree and fruit as they have the past few years, they will prove great acquisitions to the list of hardy pears for Indiana.

The Mt. Vernon is an excellent pear, but from every indication now will prove a late fall rather than a winter pear.

Souvenir du Congres and Assumption are equal in quality to Bartlett, and quite superior in size, and both ripen a few days before it. They are remarkable growers, and this season have retained their foliage till frost.

The Goodale is a favorite of mine, not only for its beauty and symmetry of tree and its healthfulness, but also for the uniform size and perfect form of fruit. It will seldom require thinning, as it sets just about sufficient fruit to mature right.

Beurre Baltet, Barrone Leroy, Marshal Wilder, Notaine Minot and Doyenne Janvier have borne sufficient to give a foretaste of their great excellence, while their general habits of tree are all that is required to show that they are adapted to this climate.

There may not be much profit (if dollars is the object), in having so many varieties, but there is great pleasure in learning the habits of these different fruits, and when we find them a success, we feel amply repaid, even if only one of five prove so.

What horticulture wants is active, earnest men, who will labor for the benefit of horticulture, as well as for the almighty dollar.

Delphi, Indiana.

Selaginellas.

BY A. VEITCH, NEW HAVEN, CONN.

IF any apology is needed for the following remarks on Selaginellas, it is the fact that after repeated efforts to find something like a correct technical description of the species herein enumerated, as well as several others, I have, with all the helps at hand, very signally failed to do so. True it is, we have a list of their names, some account of their habits and native countries in the latest edition of "Paxton's Botanical Dictionary"—a fuller description of half a dozen or so in "Gray's Field and Garden Botany," and a very interesting popular account of many more, by Mr. Williams, in his book on "Ferns and Lycopods." But withal, there seems to be a lack of information abroad as regards the distinguishing characteristics of so many now in cultivation, that even venders find it hard to know whether they receive what they order in making purchases, or fill their own orders correctly.

I have no other motive for stating this fact, than simply the desire to remedy what may seem an unavoidable evil, but one which none the less leads to unpleasant consequences.

One remedy for this state of things would, undoubtedly, be a work of reference, wherein is stated all that is necessay to enable interested parties to distinguish one species from another, and to know just what they have, and what they have not.

Of course any effort of mine to supply this want could only be partially successful, not having had the necessary training to grasp the entire subject, and present it in such befitting terms as a professional Botanist could. Yet still, we believe in the adage, "better half a loaf than no bread," and so have ventured to describe from living specimens those that we best know, hoping it may prove to be the forerunner of something more accurate and full.

Section 1st. Stems Sending out Rootlets.

S. apus. (Syn. *Lyc. apodum.*) Stems spreading one to two inches high, sometimes forming close patches, delicate; leaves nearly one-eighth of an inch long, spreading horizontally, obliquely ovate-elliptical, serrulate; intermediate ones half as large, nearly erect and acutely pointed. A native species, not rare, and quite interesting in cultivation.

S. densa. (Syn. *Lyc. densum.*) Said by some to be the same as the last, and perhaps not greatly different, yet sufficiently so to constitute it a well marked variety. Large leaves, less spreading and rounded; smaller ones, less in proportion and more erect. The whole plant much more delicate, and growing in denser tufts. N. Holland.

S. delicatissima. (Syn. *macrophylla.*) Stems slender and trailing, 8–12 in. long, rooting nearly their whole length, irregularly branched; leaves elliptical, serrulate, with long cilia at the base; smaller ones, ovate, pointed. Columbia.

S. Kraussiana. (Syn. *denticulata hortense.*) The best known in gardens, perhaps, of any in the genus, and not the least useful for decorative purposes. S. Africa.

Var. variegata. Growing branchlets greenish white; rather pretty.

S. Martensii. (Syn. *Lyc. Stoloniferum.*) Stems ascending, 6–12 in. long, bearing numerous twice pinnate and forked branches; leaves obliquely ovate, obtuse underedge and towards the apex of the upper serrulate; smaller ones ovate, serrate, with long recurved points. The Canaries.

Var. Compacta. (Syn. *Lyc. formosum.*) Stems stouter, nearly erect, 6–9 in. high; branches crowding and forming a dense head.

Var. Compacta variegata. Same as last, but with the branches and leaves variously mixed with white.

S. Galeottii. (Syn. *dichrous*, *Karsteniana*, *Schottii.*) Stems long and trailing, sending out rootlets nearly their whole length, reddish-brown, and beset with distant leaves one-eighth of an inch in length, ovate oblique, denticulate, as are those of the branches; intermediate ones somewhat pointed; branches distant, one to several inches long, bearing several mostly forked branchlets. A fine growing species, and likely to become a favorite with florists, as it can be trained several feet high in the form of a pyramid, so as to resemble a miniature evergreen shrub. Mexico.

S. uncinata. (Syn. *Lyc. caesium.*) Stems long and trailing, branches several times divided; branchlets short and crowded; leaves oblong, obtuse, entire; smaller ones ovate, with slender uncurved points. Chiefly esteemed for the metallic luster of the leaves, which, when grown in a moist warm house in the shade, are very beautiful indeed. China.

S. laevigata. (Syn. *caesium arborium.*) Stems 1–$\frac{2}{3}$ of an in. in thickness, reddish-brown, as are also the rootlets, 4–6 feet in length; branches distant, frond-like, ovate-lanceolate, 6–12 in. long; leaves oblong-ovate, entire, not pointed; smaller ones with rather broad obliquely incurved points. A showy species with the iridescent hue of *uncenata*, and when trained to a stake or twisted around several in the form of a cylinder, is very striking and attractive. Madagascar.

S. serpens. (Syn. *mutabilis*, *Jamaicensis*, *variabilis.*) Stems prostrate, rooting their whole length; branches pinnate; spikes 1–$\frac{2}{3}$ of an in. in length, bearing numerous large spore cases in the axles of wedge-shaped, serrate, leaves; leaves of the branches ovate, blunt, sparingly serrate, their edges turned upwards; smaller ones apressed, pointed. The whole plant light green in color, appearing almost white in the twilight. West Indies.

S. Poulterii. Stems slender and spreading, 3–4 in. high; branches distant, forked; large spore cases conspicuous; leaves one-sixteenth of an inch in length, round ovate, straight, obliquely pointed or blunt, ciliate; smaller ones ovate with straight points, ciliate-dentate. A diminutive species, but quite interesting in a collection.

S. inequalifolia. Stems reddish-brown, ascending, 6–9 in. high; branches alternate, distant, fan-shaped, or palmately forked; leaves on stem distant, obliquely ovate, pointed, entire; those of the branches imbricated, half as large with short points. Very handsome. Java.

S. Griffithii. Stems 6–10 in. high, nearly erect with nodding tips, reddish-brown as are also the long rootlets borne on half their length; branches alternate, bi-pin-

nate and forked; leaves one-eighth of an inch long, oblong-ovate, straight on the under side, crenulate; smaller ones ovate, acute, crenate. Readily distinguished by its yellowish-green color and handsomely arranged. Borneo.

Section 2d. Stems not Rooting.

S. setosa. Branches spreading frond-like, bright green on the upper side and becoming red with age on the under; branchlets pinnate, divisions bearing 2–4 short spikes; leaves obliquely ovate-lanceolate, serrate, with long cilia at the base; smaller ones serrate, and long pointed.

S. caulescens. Branches 18 in. high, spreading frond-like; branchlets pinnate and forked; leaves obliquely ovate, short pointed, serrate on the upper edge and entire on the under; smaller ones ovate-lanceolate, serrate and pointed. E. Indies.

S. triangularis. Stems nearly erect, one foot high; branches at irregular distances, opposite, and disposed so as to give the whole a triangular form; branchlets bi-pinnate, close together but not crowding; leaves obliquely ovate-lanceolate, entire; smaller ones with long incurved points.

S. Lyallii. (Syn. *Lyc. Lyallii.*) Stems 6–12 in. high, somewhat trifurcate, lateral branches shortest, deep green, and rather ridged; branchlets simple, or once or several times divided, close, but not crowding; large leaves ovate, entire with points bent in direction of raches; intermediate ones ovate-lanceolate, points reflexed. Madagascar.

S. erythropus. (Syn. *umbrosa.*) Stems 4–6 in. high, dividing into three horizontal or ascending branches, lowest pair reflexed which gives the whole a halbert-shape; large leaves round-ovate, oblique, ciliate on the upper edge from the middle downwards; smaller ones ovate, pointed, serrate on the under edges and ciliate on half the upper. Tropical America.

S. flabellata. 8–12 in. high, branches ascending, ovate-acuminate, whitish on the under side and bright green on the upper; branchlets 1–2 in. long, pinnately forked; leaves ovate-lanceolate, denticulate on the under edge and towards the apex on the upper; smaller ones ovate-acuminate, sparingly denticulate. Tropical America.

S. pubescens. (Syn. *Lyc. Willdenovii, Braunii.*) Stems ascending 6–18 in. high, bearing numerous branches, spreading frond-like, scarcely pubescent; branches 2–3 pinnate and forked; spikes one-sixteenth of an inch long; leaves obliquely ovate, obtuse; smaller ones apressed and pointed. E. Indies.

S. elongata. (Syn. *cordifolia.*) Branches 9–12 in. high, ovate-lanceolate, light green; branchlets bi-pinnate, 1–2 in. long, closely set but not crowding; leaves ovate-acuminate, denticulate.

S. convoluta. (Syn. *paradosea.*) Stems 2–4 in. high; branches pinnately forked, short and ridged; large leaves imbricated, ovate, oblique, sparingly serrate, pointed; smaller ones ovate-lanceolate. An interesting species, which may readily be distinguished by its deep green color and low forked branches. Trop. America.

S. involvens. 3–4 in. high; pedatly branched and bearing numerous forked branchlets near the top, one-eighth of an inch wide; leaves ovate-oblong, oblique, sparingly serrulate; smaller ones ovate, with long bent points. Japan.

S. pilifera. (Syn. *lepidophylla.*) 3–4 inches high; branches arranged around a central stem, frond-like, imbricated; leaves ovate, serrate, with long slender points. A handsome species, grown quite often as lepidophyllum, which it very much resembles. Texas.

S. cuspidata. (Lyc. *circinale.*) 6–15 in. high; branches frond-like and arranged round a central stem very much in the form of a bird's nest, delicate pale green; branchlets bi-pinnate, one inch long; leaves obliquely ovate with long bristle points, serrulate and long ciliate at the base; smaller ones obliquely ovate and pointed. Trop. America.

Situation as Affecting the Grape Vine.

BY ALEXANDER W. COWPER.

THE expedition to the Rocky Mountains found, on the borders of the Arkansas and near the eastern side of the Great Desert, hundreds of acres of the same kind of vine (*vitis vinifera*) which produces the wines of Europe. These vines were growing in a wild state, and were surrounded with hillocks of sand, rising to within from *twelve* to *eighteen* inches of the ends of the branches. They were loaded with the most delicious grapes, and the clusters were so closely arranged as to conceal every part of the stem. These hillocks of sand are produced by the agency of the vines, arresting the sand as it is borne along by the wind.—*Horticultural Register, August,* 1836—*From the Rural Carolinian, December,* 1872, *page* 136.

Early in the nineteenth century, my grandfather sent laborers to Long Island, on the coast of Georgia. Walking on the sea beach, they found grape vines growing a little above high water mark; they were loaded with delicious grapes. After the men had gorged themselves they became blind, and remained so for three days.

A year ago I noticed a wild grape vine growing on a low hummock near the black rush; part of the vines entwined a tree, others had run over the rushes and taken root. The rushes were about two and a half feet high, and the soil on which they grew, a moist rich clay loam; the soil of the hummock was only a few feet higher, a rich moist sand loam. The grapes on the tree were small, sour, watery, of the variety *vitis vulpina.* Those rooted among and running on the rushes were large, fleshy, sweet and agreeable, only to be recognized as the same kind as those on the tree by the parent vines issuing from the same stock.

Hamilton, St. Simon's Isle, Geo.

Where to Plant Peaches.

BY PARKER EARLE.

THERE are two classes of people who plant peaches: the great number of farmers, gardeners, and amateur pomologists who grow them for private use only, and who should be governed in their planting by quite different considerations than those controlling the market-grower, constitute the first, and far the most important class. A majority of the American people own or occupy, and to some extent cultivate a sufficient quantity of land to make it possible for them to grow much, if not all the fruit which their families consume. It is quite possible, that in many instances it may cost more to grow it at home than to buy an equal quantity in the market; but there are abundant reasons why many varieties of fruit should be home-grown, even at some additional expense. The leading advantage is, that if we grow our fruits at home *we have them*, and it is not always convenient or possible to buy according to our tastes. The fruits we grow ourselves, we can have in their greatest perfection and beauty, and this is generally impossible to secure in the market. Fruit picked for shipment to distant markets, cannot be allowed to reach perfect maturity, and the damages incident to transportation and sale destroy most of that delicacy of beauty and flavor belonging to fine fruits, before they reach our tables.

But more important than these considerations of health and physical enjoyment, I would suggest the moral and æsthetic value of growing fruits, to one's family and one's self. Good fruits are a civilizer. They appeal to every finer faculty. They are especially an educator of children. We all look back to those days when we played in the green shadows of the old apple trees, or shook down their crimson burden in harvest time, as among the brightest and most sacred of our childhood. The man who fails to plant a market orchard, may not be impeached for neglect of duty; but any man, who, having land and a family, neglects to plant fruit tress, is morally guilty: for beyond all pecuniary interests, the use of fruits is essential to health; and the beautiful and varied lessons of their growth contribute to the finest moral culture. So let every owner of a bit of land plant

> "Fruits that shall swell in sunny June,
> And redden in the August noon,
> And drop, as gentle airs come by
> That fan the blue September sky:
> While children wild with noisy glee
> Shall scent their fragrance as they pass,
> And search for them the tufted grass."

As I would have the largest possible number of the people grow fruits of all kinds for home supply, I write these lines to encourage a more general planting of peaches,

even in those districts where they need some artificial protection. Hence, I say that the right location in which to plant peach trees, in sufficient number for family supply, is on every man's farm, and in every garden of reasonable extent. There are few locations, indeed, within the limits of our republic, elevated mountain sites excepted, where a very moderate expenditure will not fit the soil for a few trees, and guard them against extreme and destructive cold.

Peach trees, while having considerable choice of soil, will, nevertheless, grow in almost any soil capable of sustaining other vegetable growths, if it is not excessively wet; and this difficulty can be overcome, in most cases cheaply, by drainage. Our American summers are everywhere long, warm, and bright enough to ripen peaches very perfectly, if we can only preserve the trees and fruit buds through the severe winters of the North. This has been done in a sufficient number of cases to justify the declaration that it can be done generally along our Northern borders. The well-ripened wood and fruit buds of the peach tree will generally endure the cold of ten to fifteen degrees below zero without injury, especially if protected against severe and drying winds. Large crops of peaches are annually grown in orchards exposed to this degree of frost. Any method of protection which will shield the trees against a greater degree of cold than ten below zero, will doubtless carry a crop safely through. Several plans have been adopted with success. A long tried plan is to grow the tree against the southern side of the wall, which is the universal custom in England, and in portions of France. The branches are trained along the wall horizontally in both directions from the stem, and fastened occasionally to hold them in place. Corn fodder or straw may be packed against the trees before very cold weather, and held in place by poles, or in any cheap way. The wall may be simply a close high board fence, backed with earth or sods; or trees may be trained to a trellis like grapes, and protected as above; or they may be branched a few inches above the ground, and the branches trained horizontally very near the ground by tying to stakes, and protected by covering with straw. Trees grown in either of these ways, may be protected from the ravages of the curculio, by the Ransom process of trapping, so often described. Again, trees may be grown in large pots or tubs, as they are for glass-house culture, and moved into the cellar for winter, and plunged in the soil in summer. This plan dwarfs the trees, which is favorable to early fruiting: they are easily managed, and are very pleasing objects in the garden. Either of the methods of artificial culture suggested, possesses the obvious advantage over open orchard culture, that the winter protection can be retained until the danger from spring frosts is passed, giving a great certainty of crops. This security of crop will go far towards balancing the expense of protection. I have known years of general failure of the peach crop in the West, when some such measures as above suggested, would have proven remunerative in saving a crop for market. A small number of bushels of fruit, at ten dollars per bushel, would pay more net cash than some full crops in large orchards have done. But I assume that it will always pay the lover of choice peaches to produce them at this extra expense, in any neighborhood where they cannot be grown in the open garden.

South Pass, Ill., December, 1872.

Quality of Baldwin Apple. Preparing Yarn for Root Grafts.

BY J. A. D.

WHATEVER may be said of the quality of the Baldwin apple in the Eastern States, it certainly falls below a satisfactory standard in this vicinity, particularly when grown on over-loaded trees—which they are pretty sure to be when the trees get age, unless they are thinned, which they are very sure not to be. But on account of its early bearing, great productiveness and uniformly fair surface, more of this variety is planted than any other, and poor as it is in quality, the demand for the Baldwin in market exceeds any other variety.

It is remarkable how little the consumers depend on their own taste, and how much they are influenced by the frequent mention of a variety in the selection of fruit; not knowing that it is the producer who talks and writes most about varieties, and that he is governed in planting altogether by the productiveness and attractive appearance of a variety, caring little about quality so long as the consumer is satisfied.

Preparing Yarns for Root Grafts.

Last winter, observing a nurseryman preparing cotton yarn for tying root grafts, by drawing the thread singly through the melted wax, I suggested the cutting of the skeins in suitable lengths and dipping both ends about one and a half inches in the wax, and pressing with a case knife against the side of the kettle to squeeze out the surplus wax. The experiment was tried and found to answer as well as the all-waxed yarn, and not one-tenth part of the labor to prepare it.

St. Joseph, Mich.

Apple Worm.

EDITOR HORTICULTURIST: The apple worm, or larva of (*corpocapsa pomonella*), by Dr. J. Weed, in your September number, is truly a valuable article. Too much cannot be said on the subject. The necessity of keeping the matter before the lovers of fruit, to arouse them to action, is self-evident. I have captured and destroyed the worm for several years; first tried hay bands, and other material, but have settled down on old woolen rags, of any width, and long enough to reach around the tree and tuck in. I have taken and counted about 3,000 on forty young trees, this season, commencing as soon as the worm leaves the apple, going over and destroying them once a week, continuing as long as there is fruit on the trees.

I have discovered a parasite on the larvas in the person of a (gordius) hair worm; have found them in the larva, taken from the inside of the apple, therefore think there is no doubt of the fact.

For one, I am looking forward to the time when our *inventors* will discover some means of destruction, as yet unknown to us. Horticultural friends should create a fund sufficiently large to pay for the operation of brains on the subject. I will deposit ten dollars for one.

P. H. FOSTER.

Babylon, Long Island.

THE WESTERN HORTICULTURIST
MARK MILLER EDITOR DES MOINES, IOWA

Acknowledgment of Fruits.

WE are under obligations to many of our horticultural friends for specimens of fruit, and for which all have our thanks, though in some cases we are a little tardy in acknowledgment:

From Mr. O. F. Brand, Faribault, Min., we have the Saxton, with specimens of several other varieties. The Saxton was past its prime. Of the other specimens, No. 1 is too sour for pigs—must be remarkably good in tree, and bearing qualities to be worth a name anywhere. Another specimen appears like Willow Twig, immature and not colored up like ours. Neither of the apples thought to be Roman Stem and Gravenstein are correct. The former is more sweet than sour, and otherwise unlike the Roman Stem, while the latter has neither outline, color nor the flavor of the true Gravenstein. Other specimens in the collection are beyond our recognition, are evidently seedlings; with this collection Mr. Brand writes:

"I will send you a list of apples that I know, from my own personal knowledge, are hardy and valuable in this State—Tetofski, Duchess, Red Astrachan, Saxton Haas, Fameuse, Price's Sweet, Tallman Sweet, Golden Russett, Perry Russett (not prolific), Ben Davis. In the line of pears, Flemish Beauty is also a success."

From H. S. Williams. Glenwood, Iowa, several specimens: No. 1, a seedling and a most remarkable apple, shall illustrate and describe in a future number; No. 2, a large apple, flattened, one-sided and colored up much like Ben Davis; No. 3, Lahellia, "Long Island Greening," is unquestionably a seedling; the name must be local, a poor apple, even for a seedling, nor can we say anything more flattering of No. 4; No. 5 appears like Kaighn's Spitzenburg in every essential.

From H. A. Terry, Crescent City, Iowa, fine specimens of seedling fruits, grown upon his grounds. Mr Terry has probably given more attention to the production of new varieties of the apple, peach and plum than any other man in the State, and to which reference will be made at another time. Among his seedlings are some sixty varieties of Crab, and one large fine peach, in particular.

From D. B. Clark, Council Bluffs, a fine collection of apples of five sorts. They are all evidently seedlings, are large and of fine appearance and good. Though we might plant sparingly, if at all, of any one of these sorts, yet, if we had an orchard of such already in bearing, we should regard it a prize.

Twenty years ago, Mr. Clark settled upon the farm he now occupies. The first thing done was to plant an orchard of some three hundred trees, with belts of cotton-wood on the west, north and east; no inconsiderable portion of the trees turned out seed-

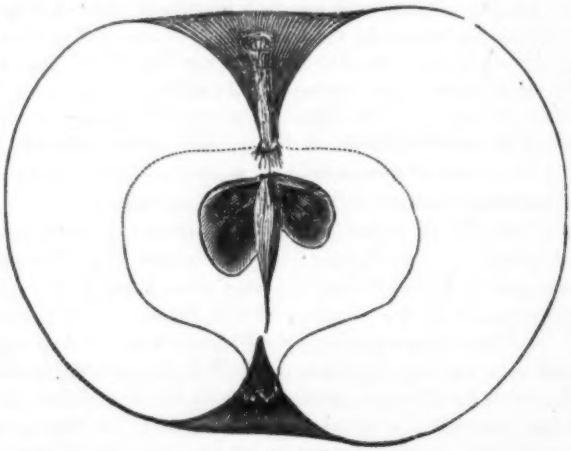
lings, but fortunately the trees are hardy, good bearers, and the fruit, as a general thing, of a size and quality to find ready sale in the market, at little, if anything, below the best market prices.

The apples are all fine in appearance; one is nearly a fac simile of the Swar, three and three-quarter inches in diameter, of a golden-yellow, specked with greenish-grey dots, but come to the "innards" we find it a different thing—open core, etc.

A Valuable Seedling Apple.

AT the late meeting of the Illinois State Horticultural Society, Mr. J. C. Hammond, of Warsaw, Ill., handed us a seedling apple, from which the accompanying illustration was copied:

Description.—Size large; form one-sided, flattened; skin pale-yellow splashed with carmine; stem medium in length, stout; core small, seeds pale-brown, small; cavity



Seedling Apple.

narrow, deep; basin medium; calyx closed; core surroundings distinct; flesh white, tender, breaking very juicy; sub-acid; flavor excellent; season January.

The attention of the society was called to this new seedling for the first, and we believe it was conceded, by all who tried it, better in quality than Ben Davis, and if anything, more attractive in appearance. Mr. Hammond kindly favors us with the following account of its origin and characteristics of tree:

MARK MILLER:—I have made some inquiries in relation to the seedling apple, exhibited at the late meeting of our State Horticultural Society, and find the following to be its history:

About the year 1838, Col. Samuel Chandler removed, with his family, from Muskingum county, Ohio, to Hancock county, Illinois. Mrs. Chandler brought with her a quantity of apple seeds, which she planted in the garden, where they were permitted

to grow until 1843 or 1844, when she gave a number of the trees to a relative, Mr. Rodolphus Chandler, who was then planting an orchard on the prairie, five miles east of Warsaw. And this apple is the production of one of these trees.

Mr. Chandler has for many years considered this the most profitable tree in his orchard, and has top-grafted quite extensively from it. The tree is a vigorous grower, healthy and hardy, and an annual bearer of fruit, always fair and of uniform size. The tree produced, the past year, twenty-five bushels of good marketable apples. It is a late bloomer, blooming two or three days before the Rawls Jannet.

I am not so well informed in relation to its keeping qualities, but Mr. Chandler informs me that he has often kept them until April, which would indicate that they are one of our best keepers. If it should prove to keep as well as the Ben Davis and Willow Twig, it will be a great acquisition to our market list, as it is apparently as hardy and productive, and greatly superior in quality to either of these varieties.

The Warsaw Horticultural Society, at a late meeting, after a full discussion of the subject, decided to name it Illinois Pippin. Perhaps we may be accused of presumption in giving an apple, so little known, such a high-sounding name, yet we believe that it will yet be an honor to the State that gave it birth.

Warsaw, Ill. A. C. HAMMOND.

The European Larch—Its Durability.

BY ROBERT DOUGLAS, WAUKEGAN, ILL.

ED. WESTERN HORTICULTURIST: I read Professor Matthews' article in the May number of the *Pomologist*, also G. B. B.'s reply to it in the September number of THE HORTICULTURIST. I have not the May number at hand to quote from, but give the substance of his argument, *i. e.* that the European Larch, as grown in Europe, is a resinous tree, but as grown in this country it is not a resinous tree. This theory, coupled with the fact that the Professor had cut down some larch saplings and used them for grape stakes, and found that these saplings rotted off at the surface of the ground within three years, led him to the conclusion that the Larch is no more durable than the cottonwood.

To bring this matter more clearly before your readers, I will make the following quotations from G. B. B.'s article in the September number of THE HORTICULTURIST, whose experience is identical with the Professor's: "In the spring of 1860, I imported a lot of European Larch from Scotland, and set them out in nursery rows two feet apart, intending to transplant them in a year or two, but leaving home next season, and being gone several years, the larch grew up a perfect thicket, twelve to fifteen feet high. In 1867, on reading some of the fabulous accounts of the durability of the larch, and wishing for some vineyard stakes, I concluded to cut down my beautiful grove or thicket of larch and use them for that purpose, thinking I had got something that would last a lifetime; but lo! I was sadly disappointed, for only two years afterwards I found the stakes beginning to break off and decayed near the surface of the ground, so I concluded that the best use I could put them to would be to burn them for stove-wood; but here I was again disappointed, for I found that it required more kindling wood to get them on fire than they were worth.

"Since then I have seen it stated that in Europe it was considered almost fire-proof, and was used for the decks of vessels on that account. Now if it contains such an amount of resinous matter, as some say it does, why will it not burn? That it does not contain much resinous matter grown in this country is certain, but that it is not durable on that account does not necessarily follow, for we find the Red Cedar, the most durable of all wood, contains little or none of this property. We also find that the sap-wood of the Red Cedar decays very easily, and that it is the heart-wood that lasts so long. So I think we will find it the same with the larch, and we should not be too hasty in condemning it, judging from the experiment we have made with nothing but saplings, only three or four inches in diameter."

In the December number of THE HORTICULTURIST, just received, the Professor has another article on the same subject, in which he says, he does not see any point upon which he and G. B. B. will materially differ, yet he seems to differ in almost every essential point. He says he thinks the claim made for the durability of the European Larch rests entirely on its resinous properties. He says he thinks there must be some mistake about its burning properties in Europe, and further says: "It is well understood that Venice turpentine is manufactured from the wood of the European Larch, and I am quite sure it will burn."

After looking his December article carefully over, I do not see that he has advanced anything new, it is substantially the same as his May article.

G. B. B. candidly admits, in his September article, that he has had little experience with this tree, aside from the experiment quoted above, from which he has drawn such strong common sense conclusions, that we agree with the Professor when he says: "When such gentlemen take hold, we have a fair prospect of getting to the bottom of the question at issue."

On looking over the Professor's two articles, we are led to the conclusion that he has had no more experience with this tree than G. B. B. has had, therefore let us look a little further and see how the matter stands, as regards the differences between the European Larch grown in this country, and grown in Europe. To begin with, we fully admit the truth of what Loudon says—as quoted in the Professor's article—and we will go further, and admit that both resinous trees, and many trees not resinous, "are of greater durability, when grown in cool climates, and in hilly and poor districts, than when grown in rich soil and in warm climates." This is a fact so well-known, that many of our Illinois tree growers have been collecting information for several years, in regard to the larch and other trees, endeavoring to ascertain how far north and south they can be grown in a healthy condition, and they have already found that the European Larch is quite as vigorous at Louisville, Kentucky, as in this climate, and judging from a tree eighteen inches in diameter when cut down, the timber is similar to that grown in Europe and in this State.

The resinous properties of the European Larch.—I do not recollect of ever seeing but one instance where a European writer ascribed the durability of the larch to its resinous properties, and that was in the case of a log-house, that the author claimed was preserved from decay by the resin, that had formed a coating over the surface of the logs; but we need not go to Europe to test the preservative properties of the resinous matter in timber; our own Balsam Fir has a bountiful supply, and yet it

decays sooner than almost any other tree. We might cite cases almost without number, leading one to the same conclusion, so we are led to believe that the Professor's resinous theory has but little weight. Then to show him that the assertion of G. B. B., that it does not burn readily in Europe is not a "mistake," and that it is not, by any means, a recent discovery, but has been long known on both continents, I take the following quotation from A. J. Downing's *Landscape Gardening*, fourth edition, published in New York, and also in London, in 1849:

"Vitruvius relates that when Cæsar attacked the Castle of Larignum, near the Alps, whose gate was commanded by a tower built of this wood, from the top of which the besieged annoyed him with their stones and darts, he commanded his army to surround it with fagots, and set fire to the whole, when, however, all the former were consumed, he was astonished to find the larch tower uninjured.* The wood is also recommended for the decks of vessels, and the masts of ships, as it is little liable either to fly in splinters during an engagement, or to catch fire readily."

Having endeavored to show that the larch is disinclined to burn in Europe, where the Professor admits it to be a resinous tree, we will proceed to discuss its resinous properties in this country.

I have a European Larch tree standing near a walk remote from the house where it is desirable to have a seat, so a few years ago I trimmed it up eight feet, and cut off the top about twenty feet from the ground, thinking this would cause it to extend its upper branches, and make more shade. We had to remove the seat owing to the resin (or Venice turpentine, or Manna of Briancon, all of which are said to be products of the larch tree). This resinous substance exudes some yet, so that we have put a back to the seat, to guard visitors from getting resin on their backs. This tree is fourteen or fifteen inches in diameter, two or three feet from the ground.

Judging from a Norway spruce tree, about the same size, and treated in the same manner, I would say that this resinous substance is much more copious in the spruce than in the larch.

I think the Professor may infer that the resin is not found in great quantity in the larch as grown in Europe, from the fact that although laborers are very poorly paid where the Venice turpentine is manufactured, yet the article is quoted at eight to ten times the price of other turpentine.

In the Professor's December article he says: "But should there be found at the heart of these trees resin or turpentine, would it not be like owning a tract of land covered by other person's farm?" "How are we going to get at it or make it useful?"

To get him out of this dilemma, we would advise him to adopt the method practiced in Europe. There the full grown tree, in its native districts, is pierced to the center with an auger. The turpentine is conducted by a tube into a trough, and it requires no other preparation to fit it for sale, than straining through a coarse hair cloth. The annual product of a healthy, full grown tree, is said to be from seven to eight pounds weight. The turpentine flows from May to September. Under these circumstance, of course no land owner in Britain or in this country, would think of extracting turpentine from his larch trees.

I do not think that any European writer has ever asserted that larch saplings, or

*Newton's Vitruvius, p. 40.

any other saplings, are very durable when placed in the ground *in an unseasoned state*, or even when seasoned, yet I think some men have understood them in this way. It is stated that they are used for sheep-flakes, used to fence in sheep, but as I understand it, these are portable fences, put together in lengths (hurdles), and that they are attached to stakes driven into the ground. We are told that it is used for palings on rustic fences, and lasts a long time, but I see no account of its being used in the ground till it becomes large enough for hop poles.

We are told by all the European writers that it is durable for posts and in all structures where it comes in contact with the ground; also for railroad ties, mill axles, ship building, for lintels, joists, rafters and the main timbers in buildings, but that it is not used for finishing lumber, owing to its being harder to plane than spruce and pine lumber.

European writers tell us that larch timber is not so durable nor so healthy when grown on low moist ground as on high dry ground, and as far as I know, this fact has been over and over again stated by most writers who have recommended the larch in this country. For the past few years western tree planters, and especially Illinois tree planters have been exchanging samples of European Larch wood taken from trees eight to sixteen inches in diameter. I have samples before me from Lake, Lee Kane, Bureau, and other counties in this State, grown on sandy land, stiff clayey land, ordinary prairie and low prairie, all healthy except one tree which was planted by A. R. Whitney, about twenty years ago. Mr. Whitney sent a sample of the wood to me, inquiring if I knew the cause of its death. The wood showed that the tree had been diseased for years. I went to Mr. Whitney's and examined the tree and the ground on which it was planted. To use Mr. Whitney's own words, he said that when he received the tree he knew very little about the habits of the European Larch, and it looked so much like the American or Tamarac, that he planted it on the edge of a slough, and our examination proved that the tree stood with its roots in stagnant water.

I am glad, however, to be able to state that Mr. Whitney planted a goodly number of larches, soon after planting the one named above, and put them on higher land. A section of one of these trees, fourteen inches in diameter, was exhibited by him at our Northern Illinois Horticultural meeting, two years ago. He has so much faith in the durability of this timber, that he used them for posts on which he has erected the present year one of the largest, if not the largest, fruit-house in the northwest.

Samuel Edwards tells me he has a European Larch over a foot in diameter, growing finely on quite low land. I think it will become unhealthy before it reaches its full growth, and would strongly advise planters against putting this tree on low, wet ground, and I have used every opportunity to advise planters against this practice. European writers caution against planting where the roots will come in contact with stagnant water, but they seem to agree that some of the finest trees in Britain stand in proximity to running water.

The larch begins to form heart-wood when younger than almost any other coniferous tree, not excepting the red cedar, but of course the more rapidly the tree grows, no

matter what the variety may be, the more sapwood will it show as compared with slower growers of the same variety.

Who would expect to find well-ripened wood in trees grown in the nursery a few inches apart, in rows two feet apart, till they were twelve to fifteen feet high, as G. B. B.'s trees were grown, in what he rightly terms "a perfect thicket?" The Professor's trees, as he made the statement to Mr. Whitney, "were grown on rather low, very rich soil, making an annual growth of four to six feet, and were about as large as his wrist." In either of the above cases, there could scarcely have been over an inch of heart-wood. I think G. B. B. told me, while attending your meeting, that there was about an inch of heart-wood on some of the stakes he took up.

I give below the measurement I have just made of several cross sections of larch wood, with the amount of heart-wood and sap-wood each sample contains:

One section	13	inches in diameter,		$10\frac{1}{4}$	inches heart-wood,		$2\frac{3}{4}$	inches sap-wood,
"	$9\frac{3}{4}$	"	"	8	"	"	$1\frac{3}{4}$	"
"	$8\frac{3}{4}$	"	"	$6\frac{3}{4}$	"	"	2	"

The thirteen-inch tree stood in a soil of sandy loam (quite sandy); it had been transplanted several times while young; it increased its diameter ten inches during the last twelve years. The nine and three-quarter inch tree grew on a stiff clay soil (a white oak knoll); it increased its diameter only eight inches during the past twelve years. The eight and three-quarter inch tree grew on prairie soil; it was planted at one year old, and stood twelve years after planting.

The above show more sap-wood than any other samples I have of the same age (only excepting the nine and three-quarter inch tree). The increase of growth is a fair average of all the samples on hand. I have some that show a larger growth than any of these, and none other that show so poor growth as the nine and three-quarter inch tree.

If any one will produce any other species of tree that will show as much growth of such hard and durable wood, of the same age, that will grow in this climate, I will commence its propagation on a large scale, and will be willing to give him a reasonable percentage on the gross sales, to pay him for the right of discovery.

I know no other tree of its value for the purposes named, and the same claims are set up for it in Britain, where it has been planted in forest by millions for more than a century, and has proved that no other tree can be grown that will produce so much valuable wood to the acre.

It is about time that our oldest tree planters should begin to understand the various uses to which the different kinds of timber is adapted. I listened to a discussion last winter in which yourself, G. B. B. and the Professor participated, or were all present at least, when most of the above points were brought out. One of your members, a gentleman of extended experience in forest culture, contended that the larch is the most profitable to plant, therefore we should plant the larch to the exclusion of all other trees; in this I entirely disagree with him; there are many uses to which the larch is not at all adapted, the purposes for which lumber is wanted are innumerable, and most of our forest trees have some uses for which they are better adapted than any other kind.

Some claim that the larch is never unhealthy, and never attacked by insects; this

is not so. There is no tree, or anything else that has life, but that is liable to disease, and to the attacks of insects, and to die from causes beyond our comprehension and beyond our control. I believe the larch to be as free from disease as any other tree in the west, as free from insects, and better adapted to the purposes for which it is recommended, than any other tree of which I have any knowledge, and I am inclined to believe that when the Professor cuts down and examines his larch tree twelve inches in diameter, and saws and planes a piece of the wood, he will no longer compare it to the cotton-wood.

The Eumelan Grape in Minnesota.

BY PETER M. GIDEON, EXCELLSIOR, MIN.

ED. WESTERN HORTICULTURIST: The Eumelan Grape having done so well with us for the last two years, I would call the attention of your readers to its great value. Of all black grapes that I have seen or tested, the Eumelan is the earliest, best table grape, splendid in bunch and berry, very saleable, first in market, a prodigious bearer, always ripe before early frosts, strong grower, hardy vine, ripens more wood than any other vine we had; notwithstanding it yielded double the fruit of any vine of its size, the yield being near seventy-five pounds, every bunch ripened up evenly, though only ten feet of space on trellis, whilst two Concords, same age, each nearly as large, with thirty feet on trellis, yielded only about twenty pounds, same soil and culture, less in bunch, and not so good in quality. Evidently the Eumelan is the grape for the North, safe in all seasons, and no dropping of berries if left out as late as any grape dare be left out doors. But as to its wine qualities I can't say, don't care; grow grapes only for the joy and comfort of home. If short of space, the Eumelan is the grape, gives the greatest yield, sure to ripen, and most luscious of all black grapes I have yet seen. But if there is space, and a variety is wanted, then for quality and a sure crop, early to ripen, the Croton has no superior amongst the white grapes, so far as we have tested. And of the red grapes, the Iona is our best, though not so early as either of the preceding, and requires a southern exposure, well sheltered from cold winds, a good warm soil, with clay, or better, clay and gravel, to insure well ripened fruit every year. But when ripened, as ripened on our grounds, its truly luscious, keeping well into winter in an ordinary room, on shelves or in baskets, gradually drying into good raisins without the addition of sugar. We have many other varieties on trial, but those recommended are the best, yet so fully tested on others will report in due time if deemed worthy. Yet still onward, wedded to none, keeping the best of the old till we get a full supply of better, ever trying the new as they bid fair to outstrip the old.

No family need be without a full supply of grapes that have twelve inches of land outside the walls of their house, if they but have the energy to set and cultivate; and a pleasure too in doing the work, the contemplation of adding taste and luxury to home and family.

Western Michigan—A Favored Fruit Region.

AT a meeting of the Michigan State Pomological Society, not long since, Mr. J. S. Linderman, of South Haven, presented a most valuable and interesting paper upon the climatic influence of large bodies of water, and the peculiar adaptability of the country bordering the eastern shore of Lake Michigan, for the production of fruit, especially the peach. Mr. Linderman's observation upon peach growing, and the indications of the thermometer east and west of Lake Michigan, are of no ordinary interest. He says,

"It is now a well understood fact that but very few, if any, inland localities in this latitude can produce this fruit with sufficient certainty to warrant its extensive cultivation. The interior of New York formerly produced it in abundance and with tolerable certainty. Now but a few favored localities produce it to any extent. So of the interior of Ohio, Indiana and this State. There is no lack of soil adapted to the growth of the peach in nearly every township of all the States named; but it is very susceptible to atmospheric changes. It succeeds perhaps in fewer localities than any other fruit grown to any extent in this latitude.

On the east shore of our great equalizer, Lake Michigan, we have a climate and soil peculiarly adapted to fruits, particularly the peach. Experience has proved, and the record shows, that at South Haven we are subject to a less degree of cold in winter and heat in summer than perhaps any other locality in this latitude, east of the Rocky Mountains. I think very few are aware of the difference in temperature in different localities on the lake shore; also the difference on the lake shore and in the interior. I have taken quite an interest in this subject for a few years, and will give you some comparisons, the better to illustrate this part of my subject.

Five years ago last winter it was from 17 to 22 degrees below zero in the interior; the coldest at our place, just zero.

December 25, 1870, at St. Joseph it was eight to nine degrees below zero; just zero at South Haven.

December 22, 1871, reported by Mr. Brown, President of St. Joseph Fruit Growers' Association, at 13 degrees below zero; by Hon. John Whittlesey at 15 degrees below; at Coloma, 18 degrees below; at South Haven, six observations varied from one to five degrees below. Five was the lowest I heard mentioned; that was my record.

February 5th, last, at Kalamazoo, it was 16 degrees below zero; 15 to 18 at St. Joseph, and from two to five below at our place. For three winters before the last it has been below zero but twice.

To arrive at a correct idea of the protection our lake affords us, we must compare our record with that west of the lake.

Beloit, Wis., is on a line directly west of our place, sixty miles from the west shore of our lake. February 11th, last, at evening, it was 38 degrees above zero; the next morning six degrees below, making a change of 44 degrees in one night. At our place the record was as follows: February 11th, evening, 36 degrees above zero, two degrees cooler than at Beloit at the same time. Morning of the 12th, with a stiff west wind, 34 degrees above zero, making 40 degrees warmer than Beloit, but blowing

hard, with some snow, and getting cold fast; at noon, thermometer 18 degrees above zero. It continued to grow cold for 36 hours, when it was only eight degrees above zero; making our change in temperature 28 degrees in 36 hours, against 44 in a night at Beloit; our change was gradual compared with theirs, and was 14 degrees less. There is not a winter passes but they have it from 15 to 25 degrees colder than we do. At the time above mentioned there was a change of 51 degrees the same night in Missouri.

The inquiry will naturally arise, on what ground do we claim this superiority of climate, and what proof do we offer to sustain our claims? My answer is this: First, the record of the thermometer, as stated above. The second proof is theoretical. The open, unfrozen water of the lake, is the source of our protection. The prevailing winds in the winter, in our cold spells are almost invariably from the west, westerly or southwest, the latter the most trying of all. The lake at South Haven is about 22 miles wider than it is 20 or 25 miles further south: and the wider the surface of unfrozen water the greater the amount of protection, the water being warmer than the atmosphere. The warmer air from the surface of the water being lighter than the cold air, rises constantly, and has a tendency to reduce the temperature. As proof, note the difference between Beloit and South Haven. I have no doubt that, if the lake had been frozen over, our change would have corresponded with theirs. The difference can be accounted for in no other way. We have from 60 to 100 miles of open water between us and the extremes of cold west, northwest or southwest, while those further south have much less protection, except from the north and northwest. Another great advantage we derive from our lake is the moist atmosphere, both summer and winter. I think that a great advantage to our fruit, especially in extreme drouth in either hot or cold weather."

Plum on the Peach.

IT appears, from observation and trial, that some varieties of the plum do better worked upon the peach than upon its own stock. Mr. J. S. Downer, of Kentucky, writes us, in a note upon the Wild Goose plum, that "worked upon the peach, the tree fruits earlier and more abundant than when grown upon the plum stock." Mr. F. K. Phœnix, also a good authority, writes to the *Western Rural* upon the subject:

"I have tried plum on peach for several years, and find that of those varieties that will grow on the peach, the trees seem quite as healthy, productive and long-lived as those on the plum root. Have several times noticed that when planted deep enough, the plum stock threw out roots, and so grew to be plum on plum—in fact, plum on their own roots. The plum usually strikes root easily. Lombard, Smith's Orleans and Washington, with me, refuse to grow on the peach, while German Prince, Yellow Egg, Imperial Gage, Bradshaw, Reine, Claude de Bevay, Coe's Golden Drop, Miner, Wild Goose and many others, do very well on the peach. On the peach the growth is often stronger than on the plum; in fact, so very strong that, while rankest and most tender, the buds suffer severely from high winds, unless staked.

Horticultural Notes.

Credit.

The article in December number, on Raising Cuttings, was written by Dr. Wm. M. Howsley, and should have been so credited.

Notes on Fruits from Texas.

William Watson Brenham, Washington county, Texas, writes us: "Nearly all the summer and early fall apples do well here, and for winter. Ben Davis, Rawles Jannette, Shockley, Romanite, Equenetell (or as you call it, Buckingham), are fine here. Nickajack is also good.

As for pears, I think this promises to be our best fruit—more certain than the peach. I have never seen any disease on either the pear or the apple here, during a residence of fourteen years. Dwarf pears do best with me. I have planted 1,000 dwarf trees in my own orchard, and only 100 Standards, Bartlett, Clapp's Favorite, Duchess d'Angouleme, Flemish Beauty, Boussock, Howell, Onondaga, Beurre d'Amalis, Seckel, all do fine here.

Keeping Grapes.

At a late meeting of the Alton, Illinois Horticultural Society, a member remarked that he had no trouble in keeping grapes sweet and good till the first of April. Pick carefully, spread in garret to shrink several days, and then pack in shallow boxes about five inches deep, holding twenty-five pounds each, and lined with paper. In spring the grapes come out good and sweet, though somewhat shriveled.

Italian Chestnuts.

The *California Horticulturist* notices chestnuts from Italian seed measuring three inches in circumference, raised in Sonoma City.

Zante Currant Grapes.

The *Pacific Rural Press* says; "We have received from the Alhambra Gardens, near Martinez, a box of superb grapes of a number of varieties, including that from which the—so-called—Zante currants are made; the donor is Dr. J. Strentzel. May the frosts of age fall lightly, and render as beautiful the winter of his years, as were the tinted autumn leaves that accompanied the generous gift."

Alternate Row System.

A strawberry grower at Memphis, Tenn. says: "Let others say what they please, but I am satisfied from careful observation that the alternate row system with hand cleaning amongst the vines, letting the runners root, is by far the best system for the South." Yes, and you might have added—for either *North* or South.

Prize Apples in Michigan.

At a late meeting of the Michigan Pomological Society, premiums were awarded to the following: *Summer*, Primate first, Sweet Bough second; *Fall*, Maiden's Blush first, Lowell second; *Winter*, Rhode Island Greening first, Wagoner second

Destroying Garden Moles.

A. S. Baldwin, of Connecticut, destroys this pest of the garden with arsenic and Indian meal. One tablespoonful of arsenic is mixed with four times as much meal, with flour and water sufficient to make a stiff paste or dough. This is made into pills the size of a small chestnut. Small holes are made in the main runway with a small round stick, and the pills dropped in.

"Perpetual Summer"—A December Peach.

The Santa Cruz (Cal.) *Sentinel*, of December 7th, says: "How pleasant it is to go into the orchards and vineyards this 7th day of December, and find the choicest varieties of fruits still clinging to the tree and vine, and still pleasanter to know that this is a land of perpetual summer, wherein one may live and enjoy life without experiencing the dreaded winters, so many of us have been familiar with in Eastern homes, but to which he have bid farewell forever.

B. Cahoon, near Soquel, six miles from Santa Cruz, brought to our office this morning, a choice variety of clingstone peaches, quite as delicious as any of the cling variety we ever tasted. The peach was grown from a seedling, and is the lastest variety known; a fine flavored peach that matures in December will be quite an accession to the nurseries of this coast. The sample was plucked December 2d.

The Everlasting Rabbit.

The season now is, when the rabbit comes in for a share of the tree grower's attention. Dr. Howsley, of Leavenworth, Kan., says, for several years he has used with the most satisfactory results, a *white-wash*, composed of fresh slacked lime and soft soap, brought to the consistency of ordinary paint, with common flour paste added to make it adhesive. This composition, applied with a common paint brush has, with me, always been effectual.

Ben Davis and Rome Beauty.

At a meeting of the Alton, Illinois Horticultural Society, Mr. Starr said high prices were now paid in the St. Louis market for Ben Davis and Rome Beauty to ship south, that these two apples are in special demand for the New Orleans market. In the estimation of Mr. Long, Ben Davis stands first. Rome Beauty is also a favorite with him.

Wisconsin Cranberry Lands.

A New Jersey cranberry grower with other parties, have purchased 3,000 acres marsh land in Wisconsin, for the purpose of growing the cranberry. Wisconsin is becoming famous for her hop yards and cranberry fields. But a few years since these marsh lands, now so eagerly sought, were regarded of little or no value, or consequence, beyond what they might have possessed to help hold the world together.

Fabulous Cranberry Crop.

The Maine *Farmer* is responsible for the following: Mr. Clark Stanley, of Porter, has raised a crop of cranberries this year that excels anything of the kind that we have ever seen. He picked this season from a patch of ground that was sixteen feet square, seven bushels of nice cranberries, and there is, at least, another bushel on the vines, that he cannot gather at present for the water. These vines grow partly on ground that has been ploughed, with no cultivation whatever. They are of the Bell variety.

Editorial Notes.

An English Garden Scene.

Carpet Gardening is a term now somewhat in vogue with English horticulturists, as applied to lawn planting and decorations. Our frontispiece, this month, is a scene of this character, taken from the ornamental grounds, at Heckfield Place, Wirchfield, England, the residence of Lord Evenley. Most of the plants used in the low borders, are those known as succulents—Echeverias, Sedumes, also Mesembryanthemiums, Sempervivium, etc.; while in the vase, are large specimens of the *Echeveria Metallica*. Such a bed will please many, for the sake of its novelty and curious selection of plants, yet among most American flower lovers, such borders and spaces would be much more satisfactorily filled with plants of deeply colored ornamental foliage; Alternantheras, Dracænas, Centaureas, etc., would all be first chosen. We have but small space here now to refer to this subject, and only commend the plan to American amateurs; a second view, in another succeeding number, will be accompanied with advice as to the selection of plants for such purposes.

A Good Suggestion.

The officers of the American Pomological Society have done wisely, by addressing a circular to its members, soliciting suggestions as to the conduct of its future meetings. As it is probable that at the next meeting of the society, there will be a large attendance, they ask any one interested in its welfare and success, to send them any suggestions as to system or order of daily business. If there are any items which they wish discussed, they will name them distinctly; and also how much time should be occupied over each.

At previous meetings of the society, a majority of the time of the session has been spent in discussing only one or two topics, while others have been hastily passed over, which deserved more than a passing glance. We remind the American Pomological Society, that there is a greater interest now prevalent in horticultural circles, concerning *gardening*, *flowers*, and *ornamental planting*, than there is in fruits only. The fever for fruits has been passed (at least here in the East, if not in the West), and we hold the opinion, that the greatest good the American Pomological Society can do, at its next meeting, is to devote ample space and time to a discussion of *ornamental trees*, *shrubs*, *vines*, *and new plants*, as well as the varieties on its fruit list. If the present character of the business and purpose of the American Pomological Society, does not permit these topics, then we advocate their incorporation hereafter. The society should be even with the times, not behind it.

An Immense Rose Show.

At a recent rose show in Sydenham, England, there was on exhibition a continuous line of boxes, twelve miles long, each containing forty roses on exhibition.

A New Arboretum.

Charles S. Sargent, who has charge of the new Arnold Arboretum, in Massachusetts, writes that it is a success as far as the peculiarities of our climate will allow. 137 acres of beautiful, undulating park-like ground, have been laid out, a large amount of money is at hand, to spend for planting; there are already plenty of trees upon the tract, which are native to New England. Our best horticulturists are watching the experiments with interest.

The Early Beatrice Peach.

We see this is becoming favorably known in the South. A North Carolina fruit-grower had a quantity of this variety ripen on the 15th of June, of 1872 (or two weeks ahead of Hale's Early), which were shipped to New York, and brought good prices.

Ohio Horticultural Society.

The winter meeting of this society was the best ever held, the display of fruits occupying a table over 200 feet long. Dr. J. A. Warder, the president, exhibited 121 varieties of apples, most of them the produce of his own experimental orchard. The following items show the magnitude of fruit culture in the State:

Number of acres of orchards in the State	383,648
Number of bushels of pears, yielded in 1872	626,982
Number of bushels of peaches, yielded in 1871	860,530

Pear Tree Blight.

A series of interesting experiments have been conducted during the past two years, by William Saunders, on the grounds of the Agricultural Department, at Washington, D. C., in relation to *pear blight*. A pear tree which was badly blighted on its main trunk was made the subject of special experiment. Nearly all of the bark was blighted within three feet of the ground, only about an inch and a half in width being left to connect the upper part of the tree with the unblighted bark at the base. The affected part was removed and the sap-wood left quite exposed to view; but to prevent injury from the air it was at once coated with a composition of carbolic acid, sulphur, and lime, largely diluted with water. After the lapse of two years the tree has wholly recovered, and the denuded part is again covered with new and healthy bark. The tree, in all respects, presents a healthy appearance. Many other trees much affected with blight were coated heavily with the sulphur composition and have evinced marked signs of improvement. It is intended to continue these experiments on a larger scale, until sufficiently numerous and well-established facts attest the best mode of treatment. The Department grounds consist of a heavy, compact, partially underdrained soil, lying low; they are, therefore, unfavorable for the highest development of pear tree culture. It has been only by persistent effort that the fruit trees on the Department grounds have been brought to their present highly improved state.

Training the Wisteria.

One of the handsomest rustic ornaments we have ever seen, was thus simply constructed: A tall red cedar was transplanted from the woods, its branches all trimmed back to within two or three feet from the trunk (broadest at the base near the ground, and tapering gradually toward the top), and all the bark peeled off, leaving the wood entirely bare. Two of these were placed by a gate-way, just within the fence, one on each side of the path.

At their base was planted a Wisteria, which, feeding on rich food, was most rampant in growth, soon reaching to the top with its fast climbing tendrils. The leafy foliage soon covered the extremities of the dead wooden branches, and sending out runners which circled out, and downward, in a pendent form, covered in June with the densest of delicate blue blossoms, made a picture of rare grace, and a unique

rural embellishment. By pinching off the ends of those runners, which hang out from the main stem in half circles, they became more stout, and the entire structure appeared more like a tall shrub, than a vine on an artificial frame. Few know how really elegant such a contrivance is until they have tried it. Among the various plans which gardeners occasionally give us about training vines, is the following: Train the Wisteria to a stake six feet high, and when the main stem has reached the top, head it off. The second year, or the third, will find it able to support itself, and forming an umbrella-shaped head, with hanging flowers. The more we can encourage such little contrivances as these, the greater the pleasure in gardening.

The New Postal Law Concerning Seeds.

More good news! The new Postal Law, passed by Congress, is even more favorable than we supposed; instead of fixing the rates, as formerly, at four cents for four ounces, the rates are now one cent for two ounces, or fractions thereof, and the old limit of four pounds is restored. The following official letter, issued from the office of the P. M. General, sufficiently explains and decides the matter. The credit for the prompt engineering of this new revision, through Congress, is due to Gen. Benj. F. Butler, of Mass., although the measure originated through Mr. Hill, M. C., from New Jersey:

POST OFFICE DEPARTMENT,
APPOINTMENT OFFICE,
WASHINGTON, D. C., *Jan.* 10, 1873.

Hon. A. C. HARMER, *H. of R.:*

Sir—Please inform your correspondent that this Department, though not officially notified, is advised that the President has now signed the bill recently passed by Congress, whereby seeds, bulbs, roots, and scions are classed with printed matter in regard to postage and weight of packages, that is, one cent for each two ounces, or fraction thereof, limited to four-pound packages, and the same is now the law.

Postmasters will be advised as soon as possible after the official notice from the Department of State is received.

The same law provides that all third-class matter must be prepaid in full by stamps affixed at the office of mailing, otherwise the same shall not be forwarded.

Very respectfully, &c.,
J. W. MARSHALL,
First Assistant P. M. General.

Floral Notes.

Flowering Shrubs.

W. D. Brackenridge, a Baltimore florist, recommends the following flowering shrubs for a family garden:

As shrubs we have first the *Clethra ulnifolia*, whose flowers are white and fragrant; height of bush four to six feet. Then there is the free growing *Vitix Agnus Castus*, better known as the Chaste Tree, and of which there are two varieties, one of them blue and the other pale lilac, both of which should be in every collection of any pretension. *Hydrangea quercifolia* has large branches of greenish-white flowers, and lobed leaves like those of an oak, and is a conspicuous and well-marked article; and so is its congener *H. nivea*, with white flowers and entire leaves, which are green on the upper and snow white on the under surface—both attain a height of three to five feet. *Buddlea Lindleyana* which grows from six to eight feet heigh, is a very desirable bush, and should be more planted, producing as it does, during most of the summer months, its long pendent spikes of blue flowers, which come admirably into play when making up a table bouquet; to this we would add another beauty, viz:

Ceanothus thyrsiflora, bearing flowers like an Ostrich feather of a pale blue color. *Spiræa callosa*, *S. callosa alba*, the first bearing pink and the latter white flowers, deserve a place here as well as in every garden.

Belonging to the small tree kind, we recommend *Kolreuteria paniculata*, or Balloon tree, as some people call it, which bears yellow blossoms on long erect spikes; and as a suitable companion to this plant, *Lagerstremia indica*, of which there are three or four varieties, one bearing pink, another purple, and a third bearing scarlet flowers; we have also got the white flowering kind, but cannot vouch for the latter proving hardy; in truth, all of the varieties require protection during the winter north of Baltimore, yet there is no plant that will better repay a little care than this same *Crape myrtle*. The Althea is a very popular tree or bush, and it embraces a great many varieties, both single and double-flowered; to have these to bloom at the present season they should be headed down or cut back late in April; but apart from the value of the flowers, there are two or three kinds very attractive by their variegated foliage, which latter feature in floricultural productions has of late years claimed more prominence than we think it deserves. While bringing forward to the light the above desirable trees and shrubs, we would, with great respect, remember as seasonable the Virginia and Chinese trumpet flower, the first so well adapted to cover stumps of trees or old walls gone into decay, the last just the thing to plant against a summer house, or as a solitary bush on a lawn, where its robust growth will soon produce a stem strong enough to support its head erect.

Flowers for Window Gardening.

A correspondent of the *Agriculturist* thinks that people who live in the country have no excuse for being without good food for pot plants. Dead leaves and earth or mould from the woods are always attainable. My advice is mainly for dwellers in cities.

First, make your calculations a year ahead. You who have not been accustomed to make plans for gardening, in-doors or out, for a month ahead, need not be discouraged at this. The amateur and professional florist make their plans for a much longer time. There are very few cities where a bushel or two of dead leaves cannot be gathered in the fall from the many trees that line some streets, or adorn your own or your neighbors' yards; but don't be afraid of getting too many.

The older and more thoroughly rotted the manure is, the more valuable, and a bushel or two of leaves will go very far—much farther than you think. Put the leaves in a sheltered place, say against your back wall or fence, and put a board or two over the heap, to shed rain. Then to a bushel of leaves add a peck of loam or garden soil (sods are best), and a half-peck of common sand. Every washing day empty a pail of hot suds on the heap, and stir it as often as possible with a garden fork, hoe, or shovel, or anything else that will mix it up well. Of course, it will freeze up solid many times during the winter, unless kept where it does not freeze, but if you begin now, and stir as often as you can, by next fall you will have the whole thoroughly rotted down. Oak leaves do not rot as quickly as some others, maple, for instance.

My heap was begun last October, and you cannot now distinguish the least form of a leaf in the mass. Although out of sight, under a flight of steps at the back door, it is perfectly odorless, and is springy and spongy—just what is needed.

To recapitulate: A bushel of leaves, a peck of loam or sods, a half-peck of sand are all the important ingredients. Whatever you can add in the way of stray bunches of moss, or bones burned in the kitchen fire and powdered, is so much gain.

When ready for use, sift through your coal sieve (let it be a coarse one), and take one third of the manure and two thirds of the best garden soil you can get, and make your heap for potting. With very few exceptions all plants will thrive in this mixture, and your courage will not be damped by the formidable array of soils paraded as necessary in most works on flowers. Through the winter you will have flowers that

will be the envy of your less energetic neighbors—Geraniums that are Geraniums, Bouvardias and Primroses that no greenhouse need be ashamed of—especially if you have a sunny window. It is of no use to attempt to have winter flowers without some system. Better have none at all than the sickly specimens that disgrace so many windows from November to April.

I do not find in my horticultural reading much said about Geraniums for winter flowering; yet they will be much more satisfactory, if some of the better varieties are tried, than many other plants chosen. Two years ago I gave a lady friend, living in the country, two cuttings of Geranium—one a bicolor (salmon pink, shaded with white), and the other pure white. She has a little winter sitting-room, about nine feet square, with a window each to the south and west. The south one is devoted to flowers, and it isn't worth while to boast of Geraniums unless you could see hers. The first winter they were less than a foot high, the leaves so thickly set that the stalks were not visible, and the horse-shoe or zone on each leaf almost black. They each threw up one cluster of buds, then another, until finally through the greater part of the winter there were always from one to four clusters of blossoms. And such clusters! Nearly as big as your fist, and each floret as large as an old-fashioned cent. The shape of the cluster was such that the flowers seemed to grow in trusses, like the Hyacinth, and hid the stem entirely.

The difference between the summer and winter blooming of the same plants was very marked. Out of doors they bloomed like nearly all Zonale Geraniums; one-half of the florets faded before the other half came out. In the window each cluster would keep about three weeks; if one floret dropped, another came out in its place, or the rest pressed together and filled up the gap. Cuttings from these did equally well last winter. They stood on the window-sill, close to the glass. The room had a wood fire, and was never hot—which last item, by the way, is a very important one for your own health as well as for that of your plants.

Don't let the thermometer get above 65 or 70° at the most, going down not lower than 45° at night if possible. You can easily accustom yourself to the temperature, and will be all the better for it.

Camellia Culture—Use of Lime Water.

Mrs. Geo. W. Carpenter, in *Gardeners' Monthly*, says: In regard to the watering of camellias with lime water, the facts are as follows: The plants are grown in large pots, and have been in them undisturbed for several years; a large reservoir on the place, containing five hundred gallons of water, receives annually about three bushels of lime; before watering the plants, the lime is usually well stirred up with the water, allowing it to settle before use. Lime water was first used to kill worms in the soil, which it effectually did. It has since been continued regularly, the thriving, healthy appearance of both roots and branches seeming to warrant its use.

To Lift a Heliotrope.

With a long-bladed knife cut the soil around the plant—cut deeply and smoothly; water freely. Next day repeat this operation. After sun down, on the third day, carefully lift the plant and place in the pot. Cut the soil near the size of the pot required. Keep the plant in perfect shade for four or five days; keep moist.

Keep House Plants Clean.

The London *Cottage Gardener* thus relates the advantage of keeping artificially grown plants clean:

Two orange trees, weighing respectively eighteen and twenty ounces, were allowed to vegetate without their leaves being cleaned, for a year; and two others, weighing respectively ten and twenty and one-half ounces had their leaves sponged with tepid water once a week. The first increased in weight less than half an ounce each, while of the two latter, one had increasd two, and the other nearly three ounces.

Horticultural Notes.

Japan Peas.

The Mobile *Register* says: "We claim the honor of having started the new interest in the Japan peas, and we are really proud of it, for the Japan pea is, undoubtedly, one of the best things climatically secured to the South. It is easily raised, will grow on almost any character of soil, yields heavily, and is entirely exempt from attack by either the pea or the bean weevil. As a food for man we think it has no equal in the pea or bean line, and it makes a stock feed almost equal to corn. Hogs relish it and fatten upon it, and poultry of all kinds seem to want nothing better. Sown thickly upon the land it makes the very best of hay, and a green-feed stock will eat it in preference to anything else."

Apple Tree Borers.

A correspondent of the *Rural New Yorker* says, that he has prevented the attack of apple tree borers by putting a bushel of tan bark around the stem of each tree. The tan bark answers the double purpose of keeping out the borers and a mulch. No weeds grow through it, and the writer states that he has never known a tree to be attacked, with tan bark around it.

Preventing Rot in Grapes.

Dr. A. P. Wylie, of South Carolina, as stated in the *Rural New Yorker*, prevents bunches of grapes from rotting by enclosing them in paper bags, pinned on, with a pinch of sulphur in each. He thinks the preventive may be applied on a large scale.

Bugs.

Mr. Rufus Peet, of Wyoming county, N. Y., communicates the following remedy for bugs upon vegetation:

I have tried the following prescription against bugs, which has proved efficacious with me: Take fine dry dust from a common road, sift it through a fine riddle so as to remove all stones and lumps, and apply freely with the hand when the dew is on the plant. It was with me a perfect success last year. No bug was seen upon squash, melon, cucumber, or pumpkin. Let others try and report.

A Profitable Tree.

W. H. Ragan has pears of the Flemish Beauty variety, grown by his father at Fillmore, Putnam county, Indiana, which grew upon a tree that has for the last seven years yielded fruit, the average sales of which amounted to two hundred and one dollars per year, besides what was required for family use.—*Northwestern Farmer.*

Ashes for Reviving Peach Trees.

S. D. Pratt, of Penn Yan, N. Y., in an article to the *Farmer's Club*, N. Y., upon his experience with peach trees, says:

Remembering Prof. Liebig's theory that, when a vegetable is burned, the part which came from the air in the process of its growth returns to the atmosphere, and the part which came from the ground is reduced to ashes, I came to the conclusion that ashes would be beneficial when applied to the roots of the trees. They were standing in soil strongly inclining to clay, with a turf around them which had not been removed for several years. After pruning them properly, removing every indication of worms, etc., and washing the body and branches with soap-suds, I began operations below—first removing the turf about two feet around the tree, then with a garden pick the ground was loosened from six to twelve inches in depth, taking care not to injure the larger roots. Twenty or thirty quarts of loose dirt were removed, leaving a large cavity, shaped like a saucer, with the tree standing in the center. About one pint of unleached ashes was sprinkled about the tree, and upon this chip

manure was placed, nearly filling the cavity. Another pint of ashes was sprinkled upon the fertilizer, which was gently pressed down, and the whole covered with the loose dirt taken from the cavity, leaving the surface nearly as it was, excepting the turf. A young orchard was treated in a similar way. The effect was wonderful. Plum trees that were "going to the bad," revived. Peach trees that had presented small and shriveled leaves threw out a luxuriant foliage, and cherry trees gave fruit larger and fairer than ever before.

Pleasantries of Rural Literature.

Japanese Dwellings.

THERE are few Japanese dwellings of the middle class which have not their little private gardens, quiet retreats for sleep, for reading, fishing in the tanks, or indulging in libations of tea and saki. The chains of hills which traverse the quarters to the south and west are remarkably rich in rocks, little glens, grottoes, springs and ponds, which the small proprietors combine in the most ingenious manner, so as to give the features of a varied landscape in a limited space. When there is an entrance from the garden to the street, a rustic bridge is thrown over the canal before the portal, which is carefully concealed under spreading trees or thick shrubbery. We have hardly crossed the threshold, when we find ourselves apparently in a wild forest, far from all habitation. Masses of rock, carelessly disposed in the manner of a staircase, invite us to ascend, and from the summit a charming view is suddenly spread out below. An amphitheatre of leaves and flowers incloses a picturesque pond of water, bordered with lotus, iris, and water lilies; a light wooden bridge is thrown across it; the path, which descends to the latter, passes by windings through clumps of bamboos, azaleas, dwarf palms and camellias, then by groves of small pines and slopes of turf or flowers.

The Carnation seen through a Microscope.

It is well known that the examination of flowers, and vegetables of every description, by the microscope, opens a new and interesting field of wonders to the inquiring naturalist. Sir John Hill has given the following curious account of what appeared on his examining a carnation: "The principal flower in an elegant bouquet was a carnation; the fragrance of this led me to enjoy it frequently and near. The sense of smelling was not the only one affected on these occasions; while that was satiated with the powerful sweet, the ear was constantly assailed by an extremely soft, but agreeable murmuring sound. It was easy to know that some animal within the covert must be the musician, and that the little noise must come from some little creature suited to produce it. I instantly distended the lower part of the flower, and placing it in a full light, could discover troops of little insects frisking, with wild jollity, among the narrow pedestals that supported its leaves, and the little threads that occupied its center. What a fragrant world for their habitation! What a perfect security from all annoyance, in the dusky husk that surrounded the scene of action! Adapting a microscope to take in, at one view, the whole base of the flower, I gave myself an opportunity of contemplating what they were about, and this for many days together, without giving them the least disturbance. Thus I could discover their economy, their passions and their enjoyments. The microscope, on this occasion, had given what nature seemed to have denied to the objects of contemplation. The base of the flower extended itself under its influence to a vast plane; the slender stems of its leaves became trunks of so many stately cedars; the threads in the middle seemed columns of massy structures, supporting at the top their several ornaments; and the narrow spaces between were enlarged in walks, parterres and terraces. On the polished bottom of these, brighter than Parian marble, walked in

pairs, alone, or in large companies, the winged inhabitants: these, from little dusky flies, for such only the naked eye would have shown them, were raised to glorious, glittering animals, stained with living purple, and with a glossy gold, that would make all the labors of the loom contemptible in the comparison. I could, at leisure, as they walked together, admire their elegant limbs, their velvet shoulders, and their silken wings—their backs vying with the empyrean in its blue; and their eyes, each formed of a thousand others, out-glittering the little plains on a brilliant; above description, and too great almost for admiration."

How Tree Planting is Encouraged in Europe.

The success of national legislation in behalf of general tree planting, has never been so well illustrated as in Egypt and Algiers.

Egypt, well known for its dry climate after the destruction of its forests, olive and other plantations, had about six rainy days every year on an average; but so many millions of useful trees have again been planted there are now about twenty-four rainy days per year recorded.

There is a man who deserves the greatest esteem from all civilized nations—Napoleon III; who, with all his faults, has given the world an example which, at least, in France, will render his name forever immortal. Convinced of the great benefit the barren and swampy districts would derive if planted with trees, by his command many millions have been planted in vast districts of the country. By his command thousands of acres of the desert in Algiers have been transformed into forests, with trees suitable to the climate, and with surprising results. By their rapid growth a great change of the climate is observable, and twice more rain and dew has fallen in the neighborhood of the young forests than before. By his command, more than sixteen geographical square miles of the swampy and unhealthy country along the coast of the Bay of Biscay, in the Department of the Landes, where swamp fever was prevalent, have been planted with millions of trees, especially the cork-oak and swamp-pine, with surprisingly beneficial results. Not only have these trees drained the land, but they have changed it into a healthy country with fine forests. In Japan a law exists that whoever cuts down a tree is obliged to plant another instead. In Biscay every proprietor plants two for one which he cuts down, and the law compelling this is severely executed.

A Remarkable Tree.

A few years ago, a new species of tree was brought from Australia to Algiers. The ex-Emperor Napoleon, in a recent visit to the Jardin d'Acclimation, at Algiers, was much struck with the rapid growth of this tree, the Eucalyptus Resinifera, or Australian gum tree, which has attained a height of 30 feet and a diameter of six inches in two years. This remarkable tree in its native soil—Australia—sometimes reaches the height of 340 feet, and has been found more than 19 feet in diameter at about a yard from the ground. It often yields planks 200 feet long without a single defect. The wood, notwithstanding its rapid growth, is hard and heavier than oak. It also presents beautiful colors, and is consequently well adapted for cabinet work. An astringent gum, known in commerce as "kino," is obtained by making incisions into its bark. The Eucalyptus is an evergreen; its leaves have nearly the same shape as the laurel. The development of its lateral branches is no less wonderful than its stems. They are small until the trunk attains the height of about 100 feet, when they shoot out almost horizontally, sometimes to the length of 90 feet, giving the tree the appearance of an enormous umbrella. The seed, strange to say, is very small, and not unlike that of the tobacco plant; the flowers are white, of a most agreeable smell, and much liked by bees, which extract from them a most delicious honey.

THE CENTRAL PARK. ARCHWAY UNDER DRIVE.